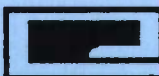PERS-TN-89-005

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FACTOR AND CLUSTER ANALYSES
OF THE SPECIAL ASSIGNMENT BATTERY

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The Special Assignment Battery (SAB) is an interest and biographical data instrument developed to meet personnel screening needs of the United States Marine Corps and Navy. Previous research on the SAB has focussed on the empirical keying of the instrument for the prediction of performance as a recruiter or drill instructor. Although both useful and well-conducted, past research on the SAB has done little to explicate the construct structure of the instrument. The present study fills this research gap. The construct structure of the SAB can be summarized with eight factors and 16 subordinate clusters. This research also serves as a methodological case study in the value of exploring construct structure through multiple analysis methods.

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Factor and Cluster Analyses
of the Special Assignment Battery

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Preface

Since June 1987, PERSEREC has been supporting the Marine Security Guard (MSG) Battalion in the development and evaluation of screening, psychological assessment, and continuing evaluation procedures. One of the instruments being evaluated for use in screening and selecting MSGs is the Marine Corps Special Assignment Battery (SAB).

Previous research with the SAB has developed empirical scoring keys for use in predicting success of recruiters and drill instructors. The present study develops the construct structure of the SAB using data from its administration to applicants for Marine Corps recruiting duty.

Results from this research are being used to develop SAB scales as potential predictors of MSG performance.

Carson K. Eoyang
Director

Factor and Cluster Analyses
of the Special Assignment Battery

Summary

Problem and Background

The Special Assignment Battery (SAB) is an interest and biographical data instrument developed to meet personnel screening needs of the United States Marine Corps and Navy. Previous research on the SAB has focused on empirical keying of the instrument for the prediction of performance as a recruiter or drill instructor. Although both useful and well-conducted, past research has done little to explicate the construct structure of the instrument.

Objective

The objective of this research was to explore the construct structure of the SAB. Such knowledge is useful for developing scoring procedures for the instrument without relying on empirical keying with respect to specific criteria.

Approach

Factor and variable cluster analyses were employed to explore the construct structure of the SAB. The analysis strategy was to employ factor analysis to derive broad content dimensions and to use variable cluster analysis to identify a larger number of smaller but more homogeneous item clusters. Ideally, this strategy would yield one or more item clusters reflecting the content of each factor.

Results

The construct structure of the SAB can be summarized with eight factors and 16 subordinate clusters. The eight factors were labelled surgency, adjustment, likeability, prudence, work orientation, painstaking, demographics, and religious nondrinkers. The surgency factor was composed of four clusters: extroversion, exhibitionism, dominance, and spontaneity. The adjustment factor had subordinate clusters labelled well being and even tempered. The likeability factor was composed of two clusters: good natured

and stable. The prudence factor was defined by the two clusters organization and cautious. The demographics factor was composed from three clusters: age, marriage and delinquency. The factors, work orientation, painstaking , and religious nondrinker, each had only one subordinate cluster.

Conclusions

The combined factor and cluster analysis methods utilized in this study were quite effective for identifying general factors and their composite clusters. Researchers using the SAB are encouraged to examine the criterion-related validity of both the factor-derived and the cluster-derived scales.

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Introduction

The use of self-reported biographical data (commonly referred to as biodata) in military selection and placement is a long-standing practice dating back to World War II (Laurence & Means, 1985). Biodata questionnaires typically ask questions pertaining to respondents' background, demographics, interests, attitudes, and current and past behavior. Typically, responses are empirically keyed to predict success in the military or in the occupations of interest (Owens, 1976; van Rijn, 1980).

The Special Assignment Battery (SAB) is a biographical data instrument developed in response to the stated needs of the United States Marine Corps and Navy for a tool that would aid in selection for the jobs of recruiter and drill instructor or recruit company commander (Atwater, Abrahams & Trent, 1986). Empirically-derived scoring keys for the SAB have been developed and validated for use in selection of Marine Corps recruiter job performance and for Marines' probability of completing drill instructor school (Atwater et al., 1986).

The SAB is composed of three parts which address the respondents' interests, self-descriptions and backgrounds. Part I is the Strong-Campbell Interest Inventory (Campbell, 1971). It contains 325 items which are related to interests in occupations, school subjects, activities, and characteristics of the individual. Part II, a self-description inventory, contains a descriptive statement list and two adjective checklists, with a total of 240 items. Part III is a 136-item, multiple choice background questionnaire.

The construct validity of Part I of the SAB (the Strong-Campbell Interest Inventory) has been extensively explored in several factor analysis studies (Campbell, 1971). Although past efforts to empirically key the SAB have resulted in useful measurement scales (Atwater et al., 1986), little attention has been paid to the construct validity of Parts II and III of the SAB. The present study seeks to address this research gap through the conduct of exploratory factor and cluster analyses. The goal of these analyses is to identify the underlying constructs being measured by the SAB, examine their interrelations, and suggest analysis-derived homogeneous scales for future criterion-related research. In addition, this study serves as a methodological case study of the value of combining factor and cluster analyses to assist in the development and interpretation of homogeneous measurement scales.

Method

Responses from 1362 Marine Corps noncommissioned officers who were being considered for positions as Marine recruiters were analyzed. Not all Marines were eventually assigned as recruiters, and the sample represents a heterogeneous population of the Marine Corps noncommissioned officers.

Part I, the Strong-Campbell Interest Inventory, was excluded from analysis since it was derived from an established instrument with known scales (Campbell, 1971; Strong, 1943; Strong, 1955). Of the remainder, only those items which were dichotomous or ordinal were included in the analyses, resulting in a total of 246 items from Parts II and III.

Responses to items from Part II, Section A, the Descriptive Statement List (100 items) and Part II, Section B, the Adjective Checklist (95 items), as well as 51 selected items which are measured on ordinal or interval scales from Part III, the Background Questionnaire, were analyzed.

The Factor Analysis

The 246 items were factor analyzed using the SAS (Version 5.16) Factor procedure for the principal factors solution (Gorsuch, 1983). Squared multiple correlations (SMC's) were used as prior communality estimates. Based on visual examination of the scree plot, several factor solutions were examined, with various numbers of factors, as suggested by Ford, MacCallum, and Tait (1986). The factors were rotated toward simple structure using the Promax procrustean rotation, which alters an orthogonal rotation (here a Varimax rotation) to allow the best fitting least squares oblique solution (SAS Institute, Inc., 1985).

The Cluster Analysis

A cluster analysis of the same 246 items was conducted to assist in identifying homogeneous item clusters within each of the eight factors. The strategy of the analysis was to employ factor analysis to derive broad content dimensions and to use variable cluster analysis to identify a larger number of smaller but more homogenous item clusters. Ideally this strategy would yield one or more item clusters reflecting the content of each factor. The cluster scales assist in understanding the content measured in each factor-derived scale. Furthermore, homogeneous item composites within each factor typically yield different magnitudes of correlations with other variables and criteria of interest (Hogan, 1986). A composite predictor composed of multiple homogeneous item composites may permit a finer mapping of the criterion space than is possible with

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the broader and more heterogeneous factor-derived scales. The strategy of using composite predictors composed of multiple homogeneous item composites has been successfully employed in the Hogan occupational examination series (Hogan, 1986).

The responses to the 246 selected SAB items were analyzed using variable cluster analysis by means of the SAS statistical program Varclus procedure. This is an oblique component analysis which maximizes the explained variance across the clusters (SAS Institute Inc., 1985). The option was used to stop the clustering procedure so that each retained cluster had a single eigenvalue greater than one.

Results

Several factor analysis solutions were reviewed and an eight factor solution was retained based on the scree plot and the favorable interpretability of this solution. Those items loading with an absolute value of .30 or higher were retained for interpretation in the final factor solution, and factor scales were developed by summing these items. Factors were named to reflect what appeared to be the underlying constructs of each.

The eight factors are presented in Table 1, along with their eigenvalues and the interscale correlations. The full rotated factor pattern is not given due to its size. The final factor solution explained 48.96% of the trace variance. Table 2 presents the number of items retained in each factor-derived scale and the alpha reliability of the scales.

The preliminary cluster analysis solution yielded 57 clusters. Items which did not load at or above the absolute value of .30 in the factor analysis were not considered in the interpretation of the cluster solution. Working backward from the 57 cluster solution, the final solution was selected when all clusters contained a minimum of two factor-loading items. The final solution contained 16 clusters which were named to represent the content being measured by each.

Item responses were keyed to reflect a consistent directionality of measures within clusters, (e.g., high scores on the "extroversion" cluster reflected high extroversion). Cluster-derived scales were developed by summing the items in each scale. The internal consistency reliabilities (alpha) of the final 16 clusters were calculated.

Descriptions of the 16 cluster scales are presented in Table 2 grouped under the factor heading with which they share the most content. Table 2 presents the number of items in each scale and the alpha reliability of the scale. Appendix A presents a more complete description of the item content of each cluster-derived scale. Table 3 presents a correlation matrix of the factor and cluster scales.

Table 1

Correlation Matrix of SAB Factor Scales

	F1	F2	F3	F4	F5	F6	F7	F8
F1 Surgency	1.0							
F2 Adjustment	.18	1.0						
F3 Likeability	.14	.32	1.0					
F4 Prudence	.04	.32	.26	1.0				
F5 Work Orientation	.44	.14	.08	.18	1.0			
F6 Painstaking	.19	.02	.18	.14	.35	1.0		
F7 Demographics	.01	.05	-.08	-.04	-.02	-.02	1.0	
F8 Religious Non-drinkers	.09	.14	.18	.23	.05	.06	-.15	1.0
Eigenvalues	16.08	10.99	5.18	4.76	3.55	3.44	2.77	2.19

Final Communality Estimates = 48.96

Table 2

Factor and Subordinate Cluster Descriptions

			# of Items	Alpha
Factor 1: Surgency			42	.90
Extroversion	(C7):	outgoing, lively, social	18	.82
Exhibitionism	(C4):	show off, boastful	9	.75
Dominance	(C1):	takes charge, decision maker	10	.76
Spontaneity	(C15):	spontaneous, excitable	3	.54
Factor 2: Adjustment			22	.81
Well Being	(C2):	happy, few worries	11	.73
Even Tempered	(C10):	not anxious, not complaining	11	.70
Factor 3: Likeability			23	.80
Good Natured	(C3):	trusting, warm	16	.77
Stable	(C14):	stable, steady, likeable	8	.58
Factor 4: Prudence			22	.80
Organization	(C5):	plans work, neat, organized	11	.74
Cautious	(C12):	thinks before acts, careful	10	.70
Factor 5: Work Orientation			10	.65
Hard Work	(C11):	long work hours, hard driven	6	.53
Factor 6: Painstaking			10	.64
Methodical	(C8):	conscientious, persevering	6	.62
Factor 7: Demographics			11	.72
Age	(C6):	age, pay grade, length of service	4	.78
Marriage	(C13):	married, dependents	3	.73
Delinquency	(C16):	military punishment, cigarettes	4	.62
Factor 8: Religious Non-drinkers			3	.41
Religious Non-drinker: religious service, no drinking			3	.41

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Table 3

Correlation Matrix of Factor and Cluster Scales

	F1	C7	C4	C1	C15	F2	C2	C10	F3	C3	C14	F4
Factor 1: Surgency	1.0											
Extroversion (C7)	.90	1.0										
Exhibitionism (C4)	.74	.50	1.0									
Dominance (C1)	.76	.54	.50	1.0								
Spontaneity (C15)	.43	.33	.38	.23	1.0							
Factor 2: Adjustment	.18	.31	-.13	.15	-.20	1.0						
Well Being (C2)	.26	.37	-.03	.19	-.14	.91	1.0					
Even Tempered (C10)	-.02	.12	-.26	-.04	-.24	.81	.59	1.0				
Factor 3: Likeability	.14	.23	-.05	.02	.08	.32	.29	.30	1.0			
Good Natured (C3)	.06	.15	-.10	-.05	.07	.29	.26	.29	.97	1.0		
Stable (C14)	.29	.31	.10	.23	.06	.27	.27	.18	.67	.48	1.0	
Factor 4: Prudence	.04	.10	-.14	.12	-.30	.32	.32	.28	.26	.23	.23	1.0
Organization (C5)	.24	.24	.03	.30	-.07	.29	.30	.21	.22	.18	.23	.88
Cautious (C12)	-.17	-.07	-.28	-.12	-.39	.25	.23	.26	.23	.23	.15	.82
Factor 5: Work Orientation	.44	.32	.28	.63	.13	.14	.16	-.02	.08	.03	.21	.18
Hard Work (C11)	.36	.26	.24	.46	.14	.03	.04	-.09	.06	.03	.14	.15
Factor 6: Painstaking	.19	.10	.16	.34	-.04	.02	.06	-.22	.18	.15	.32	.14
Methodical (C8)	.21	.14	.14	.31	-.05	.12	.15	-.04	.25	.21	.30	.24
Factor 7: Demographics	.01	-.01	-.01	.05	.00	-.05	-.05	-.01	-.09	-.08	-.05	-.04
Age (C6)	-.04	-.04	-.06	.02	-.06	.04	.05	.06	.03	.03	.03	.10
Marriage (C13)	.05	.04	.01	.05	.00	-.03	.04	-.01	-.05	-.05	-.02	.00
Delinquency (C16)	.01	-.01	.03	.03	.06	-.10	.11	-.07	-.15	-.14	-.11	-.18
Factor 8: Religious Non-drinker	.09	.12	.02	.04	-.01	.14	.14	.12	.18	.18	.08	.23
Religious Non-drinker (C9)	.09	.12	.02	.04	-.01	.14	.14	.12	.18	.18	.08	.23

Table 3 (Continued)

Correlation Matrix of Factor and Cluster Scales

	C5	C12	F5	C11	F6	C8	F7	C6	C13	C16	F8	C9
Factor 1: Surgency												
Extroversion (C7)												
Exhibitionism (C4)												
Dominance (C1)												
Spontaneity (C15)												
Factor 2: Adjustment												
Well Being (C2)												
Even Tempered (C10)												
Factor 3: Likeability												
Good Natured (C3)												
Stable (C14)												
Factor 4: Prudence												
Organization (C5)	1.0											
Cautious (C12)	.45	1.0										
Factor 5: Work Orientation	.35	-.06	1.0									
Hard Work (C11)	.29	-.06	.87	1.0								
Factor 6: Painstaking	.17	.07	.35	.27	1.0							
Methodical (C8)	.26	.14	.34	.26	.90	1.0						
Factor 7: Demographics	-.04	-.04	-.02	.00	-.02	-.02	1.0					
Age (C6)	.08	.08	-.02	-.01	.01	.02	.74	1.0				
Marriage (C13)	.00	.01	.03	.03	-.02	-.01	.60	.23	1.0			
Delinquency (C16)	-.15	-.17	-.03	-.02	-.04	-.06	.70	.25	.12	1.0		
Factor 8: Religious Non-drinker	.20	.20	.05	.06	.06	.10	-.15	.00	-.01	-.28	1.0	
Religious Non-drinker (C9)	.20	.20	.05	.06	.06	.10	-.15	.00	-.01	-.28	1.0	1.0

Discussion

Factor 1 was labelled Surgency. Its 42 items make it the largest factor. Four cluster-derived scales shared the majority of their content with the first factor scale. The Surgency factor taps Extroversion, Exhibitionism, Dominance, and Spontaneity. Factor 2 is an Adjustment factor with two subordinate clusters: Well Being and Even Tempered. Factor 3 was labelled Likeability and shares content with the clusters Good Natured and Stable. The cluster scales Organization and Cautious define the fourth factor (Prudence). The fifth factor was labelled Work Orientation and has one subordinate cluster: Hard Work. Factor 6 was labelled Painstaking and has one subordinate cluster: Methodical. The seventh factor is primarily a demographics factor with subordinate clusters Age and Marriage. A cluster labelled Delinquency is also associated with this factor. The eighth factor is labelled Religious Non-drinker. Three items measuring attendance at religious service and alcohol consumption define this factor. Factor eight is identical to a cluster-derived scale of the same name.

Of the eight factors, Surgency and Work Orientation are the most highly correlated (.44). Factor 2, Adjustment, is equally related to Likeability (.32) and Prudence (.32). Painstaking is most related to Work Orientation (.35). The Demographics factor is unrelated to all other factors (.01 - .08). The Religious Non-drinker factor is most related to Prudence (.23).

The internal consistency reliability of all the factor and cluster scales is at acceptable levels except for the smallest of the scales (e.g, Religious Non-drinker). With the exception of the demographics scale, the factor scales show greater reliability than the smaller cluster scales. Still, the cluster scales display reliabilities of sufficient magnitude for operational use.

The demographics factor is not a psychological factor, but a biographical one measuring the correlated clusters of age and marriage. The authors were surprised to find delinquency items loading on this factor. The delinquency items address the amount of tobacco smoked and age when smoking began, as well as problems encountered under the Uniform Code of Military Justice (UCMJ) or by disciplinary report. Although it was surprising to find the delinquency cluster grouping with the age and marriage clusters, it was not unexpected to find smoking and disciplinary problems grouping together, since two earlier studies found relationships between tobacco smoking and negative background information (Crawford & Trent, 1987) and between smoking and unsuitability attrition (Trent, in press).

The structure of the SAB is not inconsistent with the "Big Five" theory of personality (Norman, 1963; Tupes & Christal, 1961). This theory holds that personality can be summarized in terms of five broad dimensions: Culture, Adjustment, Impulsivity,

Extraversion/Ascendancy, and Agreeableness. Although the SAB does not seem to have a Culture factor, its Surgency factor appears to be similar to Extraversion/-Ascendancy. The second SAB factor is an Adjustment factor. The "Big Five" Impulsivity factor is similar to the SAB Prudence factor, and the SAB Likeability factor is similar in content to a "Big Five" Agreeableness factor.

The combined factor and cluster analysis methods utilized in this exploratory study were quite effective for identifying general factors and their composite clusters. The clustering is useful in delineating the smaller, more homogeneous constructs which group together to form the factor. This assists in the interpretation of the factor. It also gives one the option of scoring the instrument using either broad factor scales or narrow cluster scales. The decisions rules described in retention of factors, clusters, and interpretable variables worked quite well in this setting, and similar decision rules are recommended for future exploratory studies.

The factors should be thought of as continua of characteristics or behaviors. The clusters represent subsets of construct continua which go together to make up the larger factors. Although names were assigned to represent the high end of each continuum (e.g., C1 Dominance was keyed to represent high dominance), this does not suggest that high scoring on the factor or cluster scales indicates the optimal, or most adaptive behaviors. For example, C4 Exhibitionism consists of the tendency to show-off, be boastful, and enjoy taking center stage. While these descriptors reflect high surgency, they are not necessarily the most adaptive behaviors. Researchers using the SAB are encouraged to examine the criterion-related validity of both the factor-derived scales and the cluster-derived scales. Based on the work of Hogan's (1986) occupational examination series, composites of the cluster-derived scales may yield superior validities through a better mapping of the criterion space.

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Appendix A

Item Content Descriptions of Cluster Scales

Items beginning with the letter "A" (e.g. A12) are from SAB Part II, Section A. Items beginning with the letter "B" (e.g., B41) are from SAB Part II, Section B. Items beginning with "3-" (e.g., 3-21) are from the SAB Section III.

Clusters Related to Surgency Factor

Item #	Content Description	Loads on Factor

Extroversion (C7; alpha = .82)

Item #	Content Description	Loads on Factor
A12	open up to friends	Surgency - F1
A14	lively and witty	Surgency - F1
A23	perform in public	Surgency - F1
A38	introduce	Surgency - F1
A45	liven up party	Surgency - F1
A59	open to strangers	Surgency - F1
A67	not quiet child	Surgency - F1
A72	good talker	Surgency - F1
A91	share problems	Surgency - F1
A94	not loner	Surgency - F1
B41	humorous	Surgency - F1
B45	involved	Surgency - F1
B55	outgoing	Surgency - F1
B56	outspoken	Surgency - F1
B66	not quiet	Surgency - F1
B72	not reserved	Surgency - F1
B85	talkative	Surgency - F1
3-21	enjoy social gathering	Surgency - F1

Exhibitionism (C4; alpha = .75)

Item #	Content Description	Loads on Factor
A7	show off	Surgency - F1
A48	want leading role in play	Surgency - F1
A57	likes "center stage"	Surgency - F1
A80	likes "spotlight"	Surgency - F1
B10	boastful	Surgency - F1
B29	egotistical	Surgency - F1
B49	loud	Surgency - F1
B54	opinionated	Surgency - F1
B78	show off	Surgency - F1

Clusters Related to Surgency Factor (continued)

Item #	Content Description	Loads on Factor
Dominance (C1; alpha = .76)		
A8	relied on for decisions	Work Orientation - F5
A50	takes charge	Surgency - F1
A64	forceful	Surgency - F1
A78	group leader	Surgency - F1
A97	forceful	Surgency - F1
B11	bold	Surgency - F1
B25	demanding	Surgency - F1
B79	shrewd	Conscientious - F6
3-30	decisions are good	Work Orientation - F5
3-31	aggressive	Surgency - F1
Spontaneity (C15; alpha = .54)		
A31	spontaneous	Surgency - F1
A68	spontaneous	Prudence - F4
B31	excitable	Surgency - F1

Clusters Related to Adjustment Factor

Item	Content Description	Loads on Factor

Well Being (C-2; alpha = .73)

Item	Content Description	Loads on Factor
A16	temper not bad	Adjustment - F2
A27	behavior not misunderstood	Adjustment - F2
A29	tolerate work interruptions	Adjustment - F2
A75	feel useful	Adjustment - F2
A77	few worries	Adjustment - F2
A79	not grouchy when ill	Adjustment - F2
A86	happy as others	Adjustment - F2
A89	life not raw deal	Adjustment - F2
A96	seldom disgusted with self	Adjustment - F2
B52	not moody	Adjustment - F2
B53	not nervous	Adjustment - F2

Even Tempered (C10; alpha = .70)

Item	Content Description	Loads on Factor
B3	not anxious	Adjustment - F2
B7	not bitchy	Adjustment - F2
B17	not complaining	Adjustment - F2
B37	not hasty	Adjustment - F2
B39	not high-strung	Adjustment - F2
B43	not individualistic	Prudence - F6
B73	not restless	Adjustment - F2
B76	not self denying	Prudence - F6
B77	not short-tempered	Adjustment - F2
B86	not tense	Adjustment - F2
B89	not touchy	Adjustment - F2

Clusters Related to Likeability Factor

Item	Content Description	Loads on Factor
Good Natured (C3; alpha = .77)		
B12	calm	Likeability - F3
B14	casual	Likeability - F3
B20	considerate	Likeability - F3
B32	forgiving	Likeability - F3
B34	gentle	Likeability - F3
B35	good natured	Likeability - F3
B46	kind	Likeability - F3
B47	light hearted	Likeability - F3
B58	patient	Likeability - F3
B59	peaceable	Likeability - F3
B69	relaxed	Likeability - F3
B84	tactful	Likeability - F3
B87	tolerant	Likeability - F3
B90	trusting	Likeability - F3
B93	warm	Likeability - F3
B94	wholesome	Likeability - F3
Stable (C14; alpha = .58)		
B22	cooperative	Likeability - F3
B30	enthusiastic	Likeability - F3
B36	happy	Likeability - F3
B48	likeable	Likeability - F3
B67	rational	Conscientious - F6
B70	reliable	Likeability - F3
B80	stable	Likeability - F3
B81	steady	Likeability - F3

Clusters Related to Prudence Factor

Item	Content Description	Loads on Factor
Organization (C5; alpha = .74)		
A9	return things	Prudence - F4
A11	plan ahead	Prudence - F4
A18	work planned	Prudence - F4
A22	work neat	Prudence - F4
A35	not comfortable in disorganization	Prudence - F4
A41	keep track of money	Prudence - F4
A46	methodical	Prudence - F4
A52	work well organized	Prudence - F4
B28	not disorderly	Prudence - F4
3-34	make detailed plans	Prudence - F4
3-114	keep list of things to do	Prudence - F4
Cautious (C12; alpha = .70)		
A15	plan project before start	Prudence - F4
A21	don't go against rules	Prudence - F4
A25	think before act	Prudence - F4
A63	considered decisions	Prudence - F4
A71	no spur of moment acts	Prudence - F4
A81	firm plans before work	Prudence - F4
A92	don't act on first thought	Prudence - F4
B13	careful	Prudence - F4
B15	cautious	Prudence - F4
3-49	avoid risk	Prudence - F4

Cluster Related to Work Orientation Factor

Item	Content Description	Loads on Factor
Hard Work (C11; alpha = .53)		
A28	always try to do better	Work Orientation - F5
A32	enjoy long work hours	Work Orientation - F5
A61	hard driven	Work Orientation - F5
A66	work hard to exclusion of other things	Work Orientation - F5
A84	push to limit	Work Orientation - F5
3-116	notice little things	Work Orientation - F5

Cluster Related to Painstaking Factor

Item	Content Description	Loads on Factor
Methodical (C-8; alpha = .62)		
B18	conscientious	Methodical - F6
B24	deliberate	Methodical - F6
B44	intuitive	Methodical - F6
B50	methodical	Methodical - F6
B57	painstaking	Methodical - F6
B61	persevering	Methodical - F6

Clusters Related to Demographics Factor

Item	Content Description	Loads on Factor
	Age (C6; alpha = .78)	
3-1	Age	Demographics - F7
3-2	length of service	Demographics - F7
3-3	pay grade	Demographics - F7
3-4	career military	Demographics - F7
	Marriage (C-13; Alpha = .73)	
3-14	age at marriage	Demographics - F7
3-15	# times married	Demographics - F7
3-18	# dependents	Demographics - F7
	Delinquency (C15; alpha = .62)	
3-7	disciplinary report	Demographics - C7
3-8	UCMJ punishment	Demographics - F7
3-54	smoke	Demographics - F7
3-64	age begin smoking	Demographics - F7

Cluster Related to Religious-Nondrinker Factor

Item	Content Description	Loads on Factor
	Religious Nondrinker (C9; alpha = .41)	
B71	religious	Religious - Nondrinker - F8
3-40	attend religious service	Religious - Nondrinker - F8
3-63	nondrinker	Religious - Nondrinker - F8